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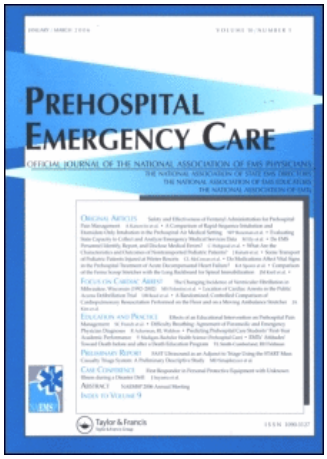

Prehospital Emergency Care
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713698281

FIRST YEAR'S EXPERIENCE WITH RAPID-SEQUENCE INTUBATION (RSI) IN A RURAL CITY OF 85,000

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To cite this Article: Brian P. McGlinch and Eric Weller , 'FIRST YEAR'S EXPERIENCE WITH RAPID-SEQUENCE INTUBATION (RSI) IN A RURAL CITY OF 85,000', Prehospital Emergency Care, 8:1, 89
To link to this article: DOI: 10.1090/312703003125
URL: http://dx.doi.org/10.1090/312703003125

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values, required more intubation attempts, and had a higher incidence of Combitube insertion. Field aspiration patients also had higher head/neck AIS and ISS scores, longer ICU and total hospital stays, but no difference in mortality. **Conclusions:** Paramedics accurately assess aspiration in patients undergoing RSI. Aspiration was associated with more severe injuries, prolonged hospitalization, and prehospital and arrival hypoxia.

25 First Year's Experience with Rapid-sequence Intubation (RSI) in a Rural City of 85,000 **Brian P. McGlinch, Eric Weller,** *Mayo Clinic*

Objective: We report our first 12 months' experience with rapid-sequence intubation (RSI) in a rural city (population 85,000) from a single advanced life support ground ambulance service employing 45 paramedics. **Methods:** We conducted a retrospective, observational review of an RSI database following our first year's experience with RSI. Glasgow Coma Scores <8 and/or deteriorating hemodynamic or respiratory stability were indications for RSI. Etomidate (0.2 mg/kg) and succinylcholine (2 mg/kg) were the only agents used for initial sedation and paralysis. Laryngoscopy is limited to 30 seconds in duration per intubation attempt. **Results:** In the 12-month period, approximately 3,700 emergency calls were answered. 23 of these patients met RSI criteria. 17 of 23 patients received the intervention: 1 trauma, 16 with medical emergencies (7 neurologic, 5 respiratory, 3 drug overdoses, 1 carbon monoxide poisoning). Hospital records were available for all patients. 15 of 17 (88%) were intubated on the first or second laryngoscopy. Duration of laryngoscopy (8 patients), not oxygen desaturation (1 patient), was the usual reason for interrupting intubation attempts. No esophageal intubations occurred. Patients weighing 120 kg or more were more difficult to intubate. Two patients required Combitube placement due to failed intubation: a 170 kg unresponsive patient and a 130 kg patient with copious pulmonary edema fluid. Two cardiac arrests occurred immediately after RSI: a patient with severe emphysema developed pulseless electrical activity and the 130 kg patient with pulmonary edema developed ventricular fibrillation. Neither patient survived. Of the 15 patients surviving to hospital admission, 6 patients (4 neurologic and 2 respiratory) died from processes unrelated to RSI. **Conclusions:** In a city this size, RSI is infrequently indicated. Infrequent oxygen desaturation during RSI suggests adequate paramedic airway management skills and the benefit of limiting duration of intubaiton attempts. The high mortality in patients receiving RSI (related and unrelated to the intervention) suggests RSI may not improve patient outcome in critically ill patients. Justifying training in and maintaining RSI skills in non-metropolitan ambulance services is difficult given its infrequent use and lack of compelling evidence the intervention improves patient outcomes.

26 Comparison of Intubation Times in Emergency Residents Wearing Personal Protective Equipment **Rachel I. Burke, Linda Spillane, John Benitez,** *Strong Memorial Hospital*

Objective: Disaster preparedness requires personnel to maintain proficiency at lifesaving procedures while donning protective equipment. Hypothesis: There will be no clinically significant difference in intubation time with and without full level C personal protective equipment (PPE). **Methods:** Case–control study. Volunteer EM residents were timed intubating a computerized human patient simulator (HPS) once with and without PPE—order randomized by coin toss. All participants intubated the same HPS. The HPS was programmed to start with an oxygen saturation (O_2 saturation) 90% and have a set rise in O_2 saturation when ventilated (and fall in O_2 saturation at a set rate with cessation of active ventilation). Residents were instructed to ventilate the patient until the O_2 saturation was 98%, intubate the patient, and confirm tube placement using the end tidal CO_2 detector. Time to ventilate the HPS to an O_2 saturation of 98% and the times to intubate the patient and confirm tube placement as determined by end-tidal CO_2 detector color change were recorded. After a rest period, each resident repeated the procedure wearing the other set of gear (either PPE or UP). Data Analysis: A priori, a time difference of >60 seconds and time to intubate/confirm tube placement >5 minutes were determined to be clinically significant. Mean times to intubate with and without PPE were compared between groups and for individuals using a t-test with equal variance. **Results:** 14 residents participated in the study with 7 intubating first in PPE. The mean time to intubate with PPE was 37.1 seconds (95% CI 27.1–47.0). The mean time to intubate in UP was 29.8 seconds (95% CI 24.2–35.4). Individual variance was 19.0 seconds, and did not correlate with the type of gear being worn first. No difference in time to intubate based on order of PPE versus UP was found. No intubation took $>$ 90 seconds once an O_2 saturation of 98% was achieved. The patient's O_2 saturation was never below 98% during any of the intubations. There were no esophageal intubations. **Conclusion:** There was no clinically significant difference in time to intubate with and without PPE.

27 What Are the Emergency Department Outcomes of Failed Prehospital Intubations? **Meredith D. Chiasson, David A. Petrie, Ed Cain,** *Dalhousie University*

Objective: Despite the importance of prehospital airway management, little is known about the outcomes of failed prehospital intubations. Our primary objective is to determine the emergency department (ED) outcome of failed prehospital intubations in a large emergency medical services (EMS) system. The secondary objective is to describe the epidemiology of all patients with an attempted field intubation. **Methods:** Design: Retrospective review of the provincial prehospital intubation registry for the period of January 1, 2002, to June 1, 2003. Data for the registry were extracted from the patient care record using a standardized data extraction form. Setting: The EMS system in Nova Scotia is a single system covering a population of 940,000 in urban, suburban, and rural settings. Subjects: All intubated patients (ground and air). No patients were excluded. Observations: Intubations were verified by clinical signs, and either end tidal CO_2 capnometry or esophageal detector devices; emergency physicians verified tube placement when possible.